

What is claimed is

1. A method for performing face recognition, comprising:

producing a first video image input produced from a scene sensed in the reflective domain;

producing a second video image input from said scene sensed in the thermal infrared domain;

applying non-uniformity correction (NUC) to the thermal infrared video image; and

creating a representation template for a face from a fused combination of the video images obtained from the reflective domain and the thermal infrared domain.

2. The method in Claim 1, including utilizing said face representation template for comparison and matching for face recognition system applications including access control, rank ordered identification and verification.

3. The method in Claim 2, wherein the face representation template is a single or combination of templates of fused reflective domain and thermal infrared domain imagery.

4. The method of Claim 2, further including automatically detecting faces in a scene to extract image region(s) in the reflective domain and thermal infrared domain from which to initiate creation of a face representation template.

5. The method of Claim 4, further including geometrically normalizing face image regions in the reflective domain and thermal infrared domain.

6. The method of Claim 5, further including assigning a set of sub-windows for geometrically normalized face image regions in the reflective domain and in the thermal infrared domain, are assigned.

7. The method of Claim 6, further including forming face representation templates from each sub-window.

8. The method of Claim 7, further including combining face representation templates for each sub-window.

9. The method of Claim 1, further including applying non-uniformity correction (NUC) to the thermal infrared video image.

10. An apparatus consisting of:

at least one sensor configuration for simultaneously acquiring a reflective spectrum image and a thermal infrared spectrum image and producing corresponding reflective spectrum and thermal infrared image signals; and

an interface card connected to said at least one sensor configuration to receive said reflective spectrum and thermal infrared spectrum signals and to send said signals to a memory within a computer system, and wherein said computer system is capable of processing said input reflective spectrum and thermal infrared signals to create and store a face representation template.

11. The apparatus of Claim 10, wherein said computer includes software using said input reflective spectrum/thermal infrared spectrum signals to produce face representation templates.

12. The apparatus of Claim 11, wherein said computer includes software using input reflective spectrum/thermal infrared spectrum imagery to detect faces in a scene.

13. The apparatus of Claim 12, wherein said has computer includes software able to compare and match face representation templates of unknown individuals, with those of known individuals
14. The apparatus of Claim 13, wherein said reflective domain image and thermal infrared domain image are spatially co-registered.
15. The apparatus of Claim 14, wherein said reflective domain is the visible spectrum and the sub-spectrum of said the thermal infrared domain is the LWIR spectrum.